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PATENT ABSTRACTS OF JAPAN

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(54) SEMICONDUCTOR DEVICE

(57) Abstract:

PURPOSE: To improve the integration by laminating a plurality of chips formed with wirings having peripheral end at the outer periphery, contacting the side walls of the chips with the inner surface of a package when containing the laminated chips in the package, and forming wirings contacted with the wirings of the chips in the package.

CONSTITUTION: Wirings 4 made of metal layer are formed by connecting electrodes and wirings 2 on chips 1 to extend to the side walls 3 of the chips 1. Then, the chips 1 and insulating plates 5 are alternately laminated and bonded. A package 9 which has wirings 7 of a buried metal layer having an exposure 6 at the position corresponding to the wirings 4 and a cavity 8 is formed. The package 9 is heated to expand the length of one side of the cavity 8, the laminate is inserted into the cavity 8, the wirings 4 are contacted with the exposure 6 of the wirings 7, and the package 9 is gradually cooled. Thus, a semiconductor device of chip-on-chip structure which can sufficiently perform its functions with high integration can be manufactured.

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